

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions, and listings, of claims in the captioned patent application:

Listing of Claims:

1-38. (Cancelled)

39. (Currently Amended) An implantable component of a cochlear implant system comprising:

a housing having a first surface and a second surface, wherein the first surface is opposed to the second surface, and configured to be implanted in a recipient, said housing having therein receiver electronics and stimulator electronics configured to output stimulation signals; and

a first electrode assembly having first and second longitudinally extending contiguous regions, wherein said first region is connected to said housing along a rotational axis of said housing, and wherein said second region is configured to be at least partially implanted into a cochlea of the recipient to deliver said stimulation signals to the cochlea,

wherein said housing and said first region are configured such that following implantation of said second region into the cochlea, said housing is rotatable between a first implant orientation in which the housing is implanted in the recipient such that the first surface is positioned adjacent the recipient's skull, and a second implant orientation in which the housing is implanted in the recipient such that the second surface positioned adjacent the recipient's skull, the housing further rotatable about said rotational axis of said housing such that said second region implanted in the cochlea remains substantially stationary during said rotation and the locations of said receiver electronics relative to an ear of the recipient are different in the first and second implant orientations.

40. (Previously Presented) The implantable component of claim 39, wherein said axis is substantially aligned with a longitudinal axis of said first region of said first electrode assembly.

41. (Previously Presented) The implantable component of claim 39, wherein said housing comprises a lateral surface that is most proximate the cochlea when said housing is in said first implant orientation, and wherein said first region of said first electrode assembly is connected to said lateral surface of said housing.

42. (Previously Presented) The implantable component of claim 39, wherein said housing comprises a lateral surface that is most proximate the cochlea when said housing is in said first implant orientation, and wherein said first region of said first electrode assembly is connected to a surface of said housing that is adjacent said lateral surface most proximate the cochlea.

43. (Previously Presented) The implantable component of claim 39, wherein said housing is at least partially formed from a resiliently flexible material.

44. (Previously Presented) The implantable component of claim 43, wherein a region adjacent one or more edges of said housing is resiliently deformable.

45. (Previously Presented) The implantable component of claim 39, wherein said housing is substantially symmetrical about a plane that is parallel to a longitudinal axis of said first region.

46. (Previously Presented) The implantable component of claim 39, wherein said housing is substantially symmetrical about a plane that is perpendicular to a longitudinal axis of said first region.

47. (Previously Presented) The implantable component of claim 39, wherein said stimulator electronics configured to output one or more stimulation signals comprise a stimulator unit.

48. (Previously Presented) The implantable component of claim 39, wherein said cochlear implant system comprises an external component, and wherein said receiver electronics is configured to receive signals from said external component via a radio frequency link.

49. (Previously Presented) The implantable component of claim 48, wherein said receiver electronics configured to receive signals comprises a receiver coil.

50. (Previously Presented) The implantable component of claim 48, wherein said receiver electronics configured to receive signals is further configured to allow transcutaneous bidirectional data transfer between said implantable component and said external component.

51. (Previously Presented) The implantable component of claim 39, wherein said cochlear implant system further comprises an external component having a microphone configured to receive an input sound, and wherein said stimulator electronics comprise:

- a signal processor configured to convert the input sound into a coded signal; and
- a stimulator unit configured to convert said coded signal into said one or more stimulation signals.

52. (Previously Presented) The implantable component of claim 39, wherein said implantable component further comprises a second electrode assembly having first and second longitudinally extending contiguous regions, wherein said first region of said second electrode assembly is connected to said housing, and wherein said second region of said second electrode assembly comprises one or more electrodes configured to be positioned in the recipient external to the cochlea.

53. (Previously Presented) The implantable component of claim 52, wherein said first region of said first electrode assembly is connected to a first lateral surface of said housing, and wherein said first region of said second electrode assembly is connected to a second lateral surface of said housing opposing said first region of said first electrode assembly.

54. (Previously Presented) The implantable component of claim 53, wherein said first region of said second electrode assembly is substantially aligned along the same axis as said first region of said first electrode assembly.

55. (Currently Amended) A cochlear implant system comprising:

an implantable component comprising:

an implantable housing having therein stimulator electronics configured to output one or more stimulation signals,

a receiver coil attached to said housing,

a first electrode assembly having first and second longitudinally extending contiguous regions, wherein said first region is connected to said housing along a rotational axis of said housing, and wherein said second region is configured to be at least partially implanted into a cochlea of the recipient; and

an external component having a transmitter coil configured to transmit signals from said external component to said receiver coil,

wherein said housing and said first region are configured such that following implantation of said second region into the cochlea, said housing is rotatable about said rotational axis of said housing between a first implant orientation in which the housing is implanted such that a first housing surface is adjacent the recipient's skull, and a second implant orientation in which the housing is implanted such that a second housing surface is adjacent the recipient's skull, wherein said housing is rotated approximately 180 degrees when rotated from the first implant orientation to the second implant orientation, such that said second region implanted in the cochlea remains substantially stationary during said rotation and the locations of said receiver coil relative to an ear of the recipient are different in the first and second implant orientations.

56. (Previously Presented) The cochlear implant system of claim 55, wherein said rotational axis of said housing is substantially aligned with a longitudinal axis of said first region of said first electrode assembly.

57. (Previously Presented) The cochlear implant system of claim 55, wherein said housing comprises a lateral surface that is most proximate the cochlea when said housing is in said first implant orientation, and wherein the first region of said first electrode assembly is connected to said lateral surface of said housing most proximate the cochlea.

58. (Previously Presented) The cochlear implant system of claim 55, wherein said housing comprises a lateral surface that is most proximate the cochlea when said housing is in said first implant orientation, and wherein said first region of said first electrode assembly is connected to a surface of said housing that is adjacent said lateral surface most proximate the cochlea.

59. (Previously Presented) The cochlear implant system of claim 55, wherein said housing is at least partially formed from a resiliently flexible material.

60. (Previously Presented) The cochlear implant system of claim 59, wherein a region adjacent one or more edges of said housing is resiliently deformable.

61. (Previously Presented) The cochlear implant system of claim 55, wherein said housing is substantially symmetrical about a plane that is parallel to a longitudinal axis of said first region.

62. (Previously Presented) The cochlear implant system of claim 55, wherein said housing is substantially symmetrical about a plane that is perpendicular to a longitudinal axis of said first region.

63. (Previously Presented) The cochlear implant system of claim 55, wherein said external component further comprises:

a microphone configured to receive an input sound; and
a signal processor configured to convert the input sound into a coded signal,
wherein said transmitter coil is configured to transmit said coded signal to said receiver coil.

64. (Previously Presented) The cochlear implant system of claim 55, wherein said stimulator electronics further comprise a stimulator unit configured to output one or more stimulation signals based upon said coded signals, and wherein said second region of first electrode assembly is configured to deliver stimulation to the cochlea in accordance with said one or more stimulation signals.

65. (Previously Presented) The cochlear implant system of claim 55, wherein said receiver coil and said transmitter coil are further configured for transcutaneous bidirectional data transfer between said implantable component and said external component.

66. (Previously Presented) The cochlear implant system of claim 55, wherein said external component further comprises a microphone configured to receive an input sound, and wherein said implantable component further comprises:

a signal processor configured to convert the input sound into a coded signal; and
wherein said stimulator electronics are configured to convert said coded signal into said one or more stimulation signals, and wherein said first electrode assembly is configured to deliver stimulation to the cochlea in accordance with said one or more stimulation signals.

67. (Previously Presented) The cochlear implant system of claim 55, wherein said implantable component further comprises a second electrode assembly having first and second longitudinally extending contiguous regions, wherein said first region of said second electrode assembly is connected to said housing, and wherein said second region of said second electrode assembly comprises one or more electrodes configured to be positioned in the recipient external to the cochlea.

68. (Previously Presented) The cochlear implant system of claim 67, wherein said first region of said first electrode assembly is connected to a first lateral surface of said housing, and wherein said first region of said second electrode assembly is connected to a second lateral surface of said housing opposing said first region of said first electrode assembly.

69. (Previously Presented) The cochlear implant system of claim 68, wherein said first region of said second electrode assembly is substantially aligned along the same axis as said first region of said first electrode assembly.

70.-77. (Canceled)

78. (New) An implantable component of a cochlear implant system comprising:
a housing having a first surface and a second surface, wherein the housing is configured to be inverted when rotated from the first implant orientation to the second implant orientation, and configured to be implanted in a recipient, said housing having therein receiver electronics and stimulator electronics configured to output stimulation signals; and
a first electrode assembly having first and second longitudinally extending contiguous regions, wherein said first region is connected to said housing along a rotational axis of said housing, and wherein said second region is configured to be at least partially implanted into a cochlea of the recipient to deliver said stimulation signals to the cochlea,
wherein said housing and said first region are configured such that following implantation of said second region into the cochlea, said housing is rotatable between a first implant orientation in which the housing is implanted in the recipient such that the first surface is positioned adjacent the recipient's skull, and a second implant orientation in which the housing is implanted in the recipient such that the second surface positioned adjacent the recipient's skull, the housing further rotatable about said rotational axis of said housing such that said second region implanted in the cochlea remains substantially stationary during said rotation and the locations of said receiver electronics relative to an ear of the recipient are different in the first and second implant orientations.

79. (New) The implantable component of claim 78, wherein said axis is substantially aligned with a longitudinal axis of said first region of said first electrode assembly.

80. (New) The implantable component of claim 79, wherein a region adjacent one or more edges of said housing is resiliently deformable.

81. (New) The implantable component of claim 78, wherein said stimulator electronics configured to output one or more stimulation signals comprise a stimulator unit.

82. (New) The implantable component of claim 78, wherein said implantable component further comprises a second electrode assembly having first and second longitudinally extending contiguous regions, wherein said first region of said second electrode assembly is connected to said housing, and wherein said second region of said second electrode assembly comprises one or more electrodes configured to be positioned in the recipient external to the cochlea.

83. (New) The implantable component of claim 82, wherein said first region of said first electrode assembly is connected to a first lateral surface of said housing, and wherein said first region of said second electrode assembly is connected to a second lateral surface of said housing opposing said first region of said first electrode assembly.

84. (New) The implantable component of claim 83, wherein said first region of said second electrode assembly is substantially aligned along the same axis as said first region of said first electrode assembly.

85. (New) A cochlear implant system comprising:
an implantable component comprising:
an implantable housing having therein stimulator electronics configured to output one or more stimulation signals,
a receiver coil attached to said housing,
a first electrode assembly having first and second longitudinally extending contiguous regions, wherein said first region is connected to said housing along a rotational axis of said housing, and wherein said second region is configured to be at least partially implanted into a cochlea of the recipient; and
an external component having a transmitter coil configured to transmit signals from said external component to said receiver coil,
wherein said housing and said first region are configured such that following implantation of said second region into the cochlea, said housing is rotatable about said rotational axis of said housing between a first implant orientation in which the housing is implanted such that a first housing surface is adjacent the recipient's skull, and a second implant orientation in which the housing is implanted such that a second housing surface is adjacent the recipient's skull, wherein the housing position is reversed when the housing is rotated between the first implant orientation and the second implant orientation, such that said second region implanted in the cochlea remains substantially stationary during said rotation and the locations of said receiver coil relative to an ear of the recipient are different in the first and second implant orientations.
86. (New) The implantable component of claim 85, wherein said axis is substantially aligned with a longitudinal axis of said first region of said first electrode assembly.
87. (New) The implantable component of claim 86, wherein a region adjacent one or more edges of said housing is resiliently deformable.
88. (New) The implantable component of claim 85, wherein said stimulator electronics configured to output one or more stimulation signals comprise a stimulator unit.

89. (New) The implantable component of claim 85, wherein said implantable component further comprises a second electrode assembly having first and second longitudinally extending contiguous regions, wherein said first region of said second electrode assembly is connected to said housing, and wherein said second region of said second electrode assembly comprises one or more electrodes configured to be positioned in the recipient external to the cochlea.

90. (New) The implantable component of claim 89, wherein said first region of said first electrode assembly is connected to a first lateral surface of said housing, and wherein said first region of said second electrode assembly is connected to a second lateral surface of said housing opposing said first region of said first electrode assembly.

91. (New) The implantable component of claim 90, wherein said first region of said second electrode assembly is substantially aligned along the same axis as said first region of said first electrode assembly.